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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,009	12/19/2001	Hong Sung Song	049128-5055	8778
9629	7590	08/17/2004	EXAMINER	
MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004			AWAD, AMR A	
			ART UNIT	PAPER NUMBER
			2675	6

DATE MAILED: 08/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/021,009

Applicant(s)

SONG, HONG SUNG

Examiner

Amr Awad

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-13 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

1. Claims 1, 5 and 10 are objected to because of the following informalities: claim 1 designates  $m$  as an integer greater than or equal to 2, and claims 1, 5 and 10 designate  $n$  as an integer greater than or equal to 2. This means that in case of having  $n$  and  $m$  equal to 2, the  $(n-2)$ th data line and  $(m-2)$ th gate line would be equal to zero, which are not shown in the drawing (figure 6). Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyahara et al. (US patent NO. 6,075,507; hereinafter referred to as Miyahara) in view of Asada et al. (US patent NO. 5,867,141; hereinafter referred to as Asada).

Miyahara (figures 4-7) teaches A method of driving a liquid crystal display panel of a dot inversion system having liquid crystal cells arranged at intersections between a plurality of data lines ( $S1-S_n$ ) and a plurality of gate lines ( $G1-G_m$ ) in a matrix array (col. 4, lines 6-34), comprising the steps of:

Supplying the data lines with  $(n-2)$ th data corresponding to the liquid crystal cells connected to an  $(n-2)$ th gate line (col.4, line 58 through col. 5, line 10);

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Conducting a data supply channel for the liquid crystal cells connected to an  $n$ th gate line such that the  $(n-2)$ th data is supplied to the liquid crystal cells connected to the  $n$ th gate line (col. 5, line 57 through col. 6, line 22); and

Conducting a data supplying channel for the liquid crystal cells connected to the  $(n-2)$ th gate line such that the  $(n-2)$ th data is supplied to the liquid crystal cells connected to the  $(n-2)$ th gate line (col. 6, lines 18-58).

Miyahara does not expressly teach conducting the data supply channel and conducting the data-supplying channel are performed simultaneously.

However, Asada teaches a driving method for liquid crystal display wherein the data supply channel and data-supplying channel are performed simultaneously (col. 13, lines 31-38).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the teaching of Asada for simultaneously applying data to be incorporated to Miyahara's device so as motivated by Asada, to be able to permit a competent image quality to be secured with a stable high contrast (col. 3, lines 62-65).

As to claim 2, Asada teaches a first and second gate lines of the plurality of gate lines are charged at every frame with data signals applied at a blanking interval (abstract and col. 5, lines 18-38).

As to claim 3, Miyahara teaches a polarity inversion of the data signals applied to the liquid crystal cells connected to the first and second gate lines is made in at least

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two clock time intervals prior to an application of an active data signal (col. 5, lines 11-29).

As to claim 4, Asada teaches that the gate and data control signals for applying data to the liquid crystal cells connected to the first and second gate lines are applied in at least two clock time intervals before the gate and data control signals become effective data (as can be seen in figures 5-7, Asada shows more than one clock timing.

As to independent claim 5, the claim is similar to independent claim 1 except that claim 1 recites a pre-charging controller, which is fairly similar to the blanking period shown in figure 5 of Asada's device.

As to claims 7-9, the claims are similar to claims 2-4 respectively, and would be analyzed as previously discussed with respect to claims 2-4.

As to claims 10-13, the claims are substantially similar to claims 5 and 7-9 respectively, and would be analyzed as previously discussed with respect to claims 5 and 7-9 above.

#### ***Allowable Subject Matter***

4. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

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5. Applicant's arguments filed June 1, 2004 have been fully considered but they are not persuasive.

Applicant (third paragraph of page 8) argued "Asada et al. fail to provide proper motivation with which to modify Miyahara et al. since Asada et al. fails to teach or suggest the desirability of simultaneously "conducting the first data supplying channel and conducting the second data supplying channel."" Examiner respectfully disagrees. It is not necessary that the references actually suggest, expressly or in so many words, the changes or improvements that applicant has made. The test for combining references is what the references as whole would have suggested to one of ordinary skill in the art. In re Shckler, 168 USPQ 716 (CCPA 1971); In re McLaughlin 170 USPQ 209 (CCPA 1971); In re Young 159 USPQ 725 (CCPA 1968). Furthermore, Asada made it clear that by simultaneously supplying data, high contrast will be achieved (col. 1, lines 65-67). Therefore, examiner believes that the Asada is combinable with Miyahara to achieve the claimed limitations.

Applicant (top of page 9) argued "applicant respectfully asserts that the Office Action's allegation that the claimed pre-charging controller is "fairly similar to the blanking period shown in figure 5 of Asada" and that "the claims are substantially similar to claims 5 and 7-9 respectively..." Examiner respectfully disagrees. The blanking period shown in Asada's reference, the blanking period is the period preceding the image writing. This simply means that the blanking period is a pre-charging period before the writing period. Therefore, examiner believes that the blanking period is similar to the pre-charging period. Furthermore, as can be seen above with respect to

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claim 1, shows that the combined references fairly teach generating first and second gate start pulses.

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amr Awad whose telephone number is (703)308-8485. The examiner can normally be reached on Monday through Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (703)305-4713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Amr Ahmed Awad*

8-11-2004

A.A